

What is claimed is:

- Pub A1
- 1 1 A processor comprising
- 2 a first pipeline configured to execute essential code;
- 3 a second pipeline configured to execute non-essential code; and
- 4 a conjugate mapping table configured to specify non-essential code to be
- 5 executed by the second pipeline.
- 1 2. The processor of claim 1 wherein the first pipeline is coupled to a first
- 2 instruction cache configured to cache instructions that determine the logical
- 3 correctness of a program.
- 1 3. The processor of claim 2 wherein the second pipeline is coupled to a second
- 2 instruction cache configured to cache instructions that provide hints for the execution
- 3 of the instructions that determine the logical correctness of the program.
- 1 4. The processor of claim 1 wherein the first pipeline is coupled to registers that
- 2 store a microarchitectural state, and wherein the conjugate mapping table is
- 3 responsive to the microarchitectural state.
- 1 5. The processor of claim 4 further comprising:
- 2 a first instruction cache coupled to the first pipeline; and
- 3 a second instruction cache coupled between the conjugate mapping table and
- 4 the second pipeline.
- 1 6. The processor of claim 1 wherein the conjugate mapping table is responsive
- 2 to a trigger, the trigger being mapped within the conjugate mapping table to the non-
- 3 essential code.

1 14. The processor of claim 12 wherein the ISA visible path includes a pipeline
2 configured to execute instructions from a user program.

5 combining conjugate mapping information from the static binary with
6 conjugate mapping information from the runtime binary.

28. An article having a machine readable medium with instructions for performing a method of creating a runtime binary disposed thereon, the method comprising:

- combining an essential portion of a static binary with an essential portion of a runtime library to create an essential portion of the runtime binary; and
- creating a non-essential portion of the runtime binary using a non-essential portion of the static binary.

1 29. The article of claim 28 wherein creating a non-essential portion comprises:
2 combining the non-essential portion of the static binary with a non-essential
3 portion of the runtime library.

1 30. The article of claim 29 wherein combining the non-essential portion
2 comprises:
3 combining non-essential code from the static binary with non-essential code
4 from the runtime library; and
5 combining conjugate mapping information from the static binary with
6 conjugate mapping information from the runtime binary.

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